



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-7B20
 UNIQUE ID NUMBER: 3CM030
 COMBUSTOR:
 ENGINE TYPE: TF

BYPASS RATIO: 5.4
 PRESSURE RATIO (π_{00}): 22.6
 RATED THRUST (F_{00}) (kN): 91.6

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	8.4	58.0	48.5	14.7
AS % OF ORIGINAL LIMIT	42.9	49.2	56.9	60.6
AS % OF CAEP/2 LIMIT (NO _x)			71.1	
AS % OF CAEP/4 LIMIT (NO _x)			87.9	
AS % OF CAEP/6 LIMIT (NO _x)			99.9	
AS % OF CAEP/8 LIMIT (NO _x)			122.1	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	0.913	0.10	0.60	20.50	11.4
CLIMB OUT	85	2.2	0.761	0.10	0.50	17.40	8.0
APPROACH	30	4.0	0.274	0.10	3.20	9.50	0.0
IDLE	7	26.0	0.100	3.10	25.90	4.30	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			361	504	4324	3829	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				5.4	47.2	41.8	11.4
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.8-98
TEMPERATURE (K)	294-297
ABS HUMIDITY (kg/kg)	0.01-0.0157

FUEL

SPEC	Jet A
H/C	1.86-1.97
AROM (%)	16.9-17.7

MANUFACTURER: CFM International
 TEST ORGANIZATION: CFM56-7B Eval Engineering
 TEST LOCATION: Peebles Test Operation (PTO), Peebles, Ohio
 TEST DATES: 01/07/1996

REMARKS

1. FAA Certification Report CR-997, Dec 96.
2. Engine S/N 874-101/01

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)